

Title (en)

Treatment of chromium oxide; use thereof in catalytic manufacture of vinyl fluoride

Title (de)

Behandlung von Chromoxid und dessen Verwendung in der katalytischen Herstellung von Vinylfluorid

Title (fr)

Traitement d'oxyde de chrome; son utilisation dans la préparation catalytique de fluorure de vinyle

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Application

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Priority

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Abstract (en)

[origin: WO9641679A1] Advantageous processes are disclosed for the production of vinyl fluoride. Also disclosed are advantageous methods which may be employed for the preparation of catalysts useful in such processes. Included are methods which involve (i) reducing surface B₂O₃ present in a bulk chromium oxide composition containing surface B₂O₃ by treating said composition with HF at an elevated temperature and/or (ii) treating a bulk chromium oxide composition containing B₂O₃ to enrich the B₂O₃ present on its surface by heating said composition in oxygen or an oxygen-containing environment (e.g., air) at an elevated temperature for a time sufficient to enrich the B₂O₃ on the surface of the composition by at least a factor of two compared to the surface analysis of the untreated bulk composition. Processes are provided herein which involve contacting 1,1-difluoroethane in the vapor phase with a trivalent chromium catalyst (preferably a trivalent chromium catalyst having primarily the morphology of alpha-chromium oxide and/or containing less than 1000 ppm alkali metal as the alkali metal oxide) wherein chromium is at least 95 atom percent of the metallic cations of said catalyst, at a temperature between about 225 DEG C and 375 DEG C. Advantageous embodiments of these processes are disclosed wherein (i) the catalyst is prepared by reducing B₂O₃ present in a bulk chromium oxide composition as indicated above, (ii) chromium is at least 99 atom percent of the metallic cations of the catalyst and/or (iii) the space velocity is from about 200 volumes to 2000 volumes of 1,1-difluoroethane per volume of catalyst per hour.

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